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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/707,312

12/04/2003

Mark S. Cavin

Cognio99US

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10/12/2007

VOLPE AND KOENIG, P.C.  
DEPT. ICC  
UNITED PLAZA, SUITE 1600  
30 SOUTH 17TH STREET  
PHILADELPHIA, PA 19103

EXAMINER

DAO, MINH D

ART UNIT

PAPER NUMBER

2618

MAIL DATE

DELIVERY MODE

10/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/707,312

Applicant(s)

CAVIN, MARK S.

Examiner

MINH D. DAO

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25 is/are allowed.
- 6) ☒ Claim(s) 1-7, 13, 15, 20 and 22-24 is/are rejected.
- 7) ☒ Claim(s) 8-12, 14, 16-19, 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments 08/02/07 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 13, 15, 20, 22-24,26 rejected under 35 U.S.C. 103(a) as being unpatentable over Pau (US 6,735,426) in view of Staszewski et al. (US 2004/0151257).

Regarding claim 1, Pau teaches a radio communication device comprising:

- a. a first radio integrated circuit (IC) that performs one of radio transmission (see fig. 1; col. 3, lines 39 to col. 4, line 32);
- b. a second radio IC that performs one of radio radio reception (see fig. 1; col. 3, lines 39 to col. 4, line 32). However, Pau does not disclose that the first radio IC generates and uses a local oscillator signal for radio transmission and/or radio reception operation, and wherein the local oscillator signal is coupled to the second radio IC for use in its radio transmission and/or radio reception operation. Staszewski, in an analogous art, teaches transceiver system including two separate circuits one circuit for a transmitter

and the other circuit is for a receiver. The transmitter circuit comprises a local oscillator that is used for its function, and the local oscillator is also coupled to the receiver for use in its reception operation (see fig. 2; sections [0036,0037]). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the two transmit and receive circuits of Staszewski into the two separated lcs of Pau in order to predistort signals before coming into the receiver as taught by Staszewski (see section [0005]).

Regarding claim 2, the combination of Pau and Staszewski teaches the radio communication device of claim 1, wherein the local oscillator signal generated by the first radio IC is a radio frequency (RF) local oscillator signal (see Pau, fig. 1; col. 3, lines 39 to col. 4, line 32).

Regarding claim 3, the combination of Pau and Staszewski teaches that the second radio IC comprises a transmitter and/or receiver that receives and uses the RF local oscillator signal from the first radio IC for transmission and/or reception at a frequency corresponding to the frequency of the RF local oscillator signal (see Pau, fig. 1; col. 3, lines 39 to col. 4, line 32).

Regarding claim 4, the combination of Pau and Staszewski teaches the radio communication device of claim 3, wherein the first and second radio ICs each use the RF local oscillator signal for simultaneously transmitting signals at the same radio

frequency corresponding to the frequency of the RF local oscillator signal or for simultaneously receiving signals at the same radio frequency corresponding to the frequency of the RF local oscillator signal (see Pau, fig. 1; col. 3, lines 39 to col. 4, line 32).

Regarding claim 5, the combination of Pau and Staszewski teaches the radio communication device of claim 4, wherein the first and second radio ICs each comprises a plurality of transmitters, and wherein the first radio IC supplies the RF local oscillator signal to each of its plurality of transmitters and the second radio IC supplies the RF local oscillator signal coupled from the first radio IC to each of its plurality of transmitters so that the plurality of transmitters of the first radio IC and the plurality of transmitters of the second radio IC simultaneously transmit a combined plurality of signals at a radio frequency corresponding to the frequency of the RF local oscillator signal (see Pau, fig. 1; col. 3, lines 39 to col. 4, line 32; also see col. 4, line 59 to col. 5, line 14).

Regarding claim 6, the combination of Pau and Staszewski teaches the radio communication device of claim 4, wherein the first and second radio ICs each comprises a plurality of receivers, and wherein the first radio IC supplies the RF local oscillator signal to each of its plurality of receivers and the second radio IC supplies the RF local oscillator coupled from the first radio IC to each of its plurality of receivers so that the plurality of receivers of the first radio IC and the plurality of receivers of the

second radio IC simultaneously receive a combined plurality of signals at a radio frequency corresponding to the frequency of the RF local oscillator signal (see Pau, fig. 1; col. 3, lines 39 to col. 4, line 32; also see col. 4, line 59 to col. 5, line 14).

Regarding claim 7, the combination of Pau and Staszewski teaches the radio communication device of claim 1, wherein the first and second radio ICs each comprises a port circuit, the port circuit in the first radio IC couples the local oscillator signal to the port circuit of the second radio IC, and the port circuit in the second radio IC couples the local oscillator signal from the first radio IC for use by its radio transmitter (see Pau, fig. 1, item 42).

Regarding claim 13, the claim includes the limitations as that of claim 1, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 1.

Regarding claim 15, the combination of Pau and Staszewski teaches the radio device of claim 13, and further comprising at least one frequency divider circuit that produces an intermediate frequency oscillator signal from the local oscillator signal (see Pau, fig. 6, items 1802, 1812, 1814).

Regarding claim 20, the combination of Pau and Staszewski teaches the radio device of claim 15, and further comprising a phase lock loop system and wherein the at least one

frequency divider circuit is connected outside the phase lock loop system (see Pau, fig. 6).

Regarding claim 22, the combination of Pau and Staszewski teaches the radio device of claim 13, wherein the radio transmitter and/or radio receiver, local oscillator signal source and port circuit are implemented on a single integrated circuit (see Pau, fig. 1).

Regarding claims 23,24 the claims include the limitations as that of claim 13, and therefore is interpreted and rejected for the same reason set forth in the rejection of claim 13.

Regarding claim 26, the rejection of claim 1 is herein incorporated. In addition, Pau also teaches phase and frequency co-henrency between a first and second IC (see figs. 1 and 6, items 42s).

***Allowable Subject Matter***

1. Claim 25 is allowed.
2. Claims 8-12, 14, 16-19, 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

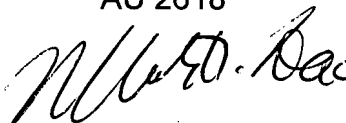
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH D. DAO whose telephone number is 571-272-7851. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MATTHEW ANDERSON can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MINH DAO  
AU 2618

A handwritten signature in black ink, appearing to read 'Minh Dao', is written over the typed name and art unit number.